

CLAIMS

What is claimed is:

1. A circuitized substrate comprising:
 - at least one dielectric layer having first and second opposing sides;
 - a conductive ground plane located on said first opposing side of said dielectric layer;
 - at least one conductive signal line located on said second opposing side of said dielectric layer; and
 - first and second conductive ground lines located on said second opposing side of said dielectric layer on opposite sides of said at least one conductive signal line and electrically coupled to said ground plane located on said first opposing side of said dielectric layer, said first and second conductive ground lines providing shielding for said at least one conductive signal line during the passage of electrical current through said signal line.
2. The circuitized substrate of claim 1 wherein said dielectric layer is selected from the group consisting of fiberglass-reinforced polymer resin, Teflon and Driclad and combinations thereof.
3. The circuitized substrate of claim 1 wherein said at least one conductive plane is comprised of copper.
4. The circuitized substrate of claim one wherein said at least one conductive signal line is comprised of copper.
5. The circuitized substrate of claim 1 wherein said first and second ground lines are each comprised of copper.

6. The circuitized substrate of claim 1 further including first, second and third conductive thru-holes, said first and third conductive thru-holes electrically coupling said first and second conductive ground lines to said conductive ground plane.
7. The circuitized substrate of claim 6 further including a second dielectric layer located on said conductive ground plane opposite said first dielectric layer and a second conductive signal line located on said second dielectric layer on a side thereof opposite said conductive ground plane, said second conductive thru-hole electrically coupling said at least one conductive signal line to said second conductive signal line.
8. The circuitized substrate of claim 7 wherein said second conductive signal line is comprised of copper.
9. The circuitized substrate of claim 1 further including additional dielectric and conductive layers as part thereof.
10. The circuitized substrate of claim 9 further including first and second pluralities of external conductive pads located on opposite sides of said circuitized substrate for electrically coupling said circuitized substrate to external electrical components.
11. The invention of claim 10 wherein said circuitized substrate is a chip carrier.
12. The invention of claim 10 wherein said circuitized substrate is a printed circuit board.
13. An electrical assembly comprising;
an electrical component; and
printed circuit board including a circuitized substrate having at least one

dielectric layer having first and second opposing sides, a conductive ground plane located on said first opposing side of said dielectric layer, at least one conductive signal line located on said second opposing side of said dielectric layer, and first and second conductive ground lines located on said second opposing side of said dielectric layer on opposite sides of said at least one conductive signal line and electrically coupled to said ground plane located on said first opposing side of said dielectric layer, said first and second conductive ground lines providing shielding for said at least one conductive signal line during the passage of electrical current through said signal line, said electrical component being electrically coupled to said printed circuit board.

14. The electrical assembly of claim 13 wherein said electrical component is a chip carrier.
15. The electrical assembly of claim 13 wherein said electrical component is a semiconductor chip.
16. The electrical assembly of claim 13 wherein said circuitized substrate further includes first, second and third conductive thru-holes, said first and third conductive thru-holes electrically coupling said first and second conductive ground lines to said conductive ground plane.
17. The electrical assembly of claim 16 further including a second dielectric layer located on said conductive ground plane opposite said first dielectric layer and a second conductive signal line located on said second dielectric layer on a side thereof opposite said conductive ground plane, said second conductive thru-hole electrically coupling said at least one conductive signal line to said second conductive signal line.

18. A method of making a circuitized substrate, said method comprising:
- providing at least one dielectric layer having first and second opposing sides;
 - positioning a conductive ground plane on said first opposing side of said conductive ground plane;
 - positioning at least one conductive signal line on said second opposing side of said dielectric layer;
 - positioning first and second conductive ground lines on said second opposing side of said dielectric layer on opposite sides of said at least one conductive signal line; and
 - electrically coupling said first and second conductive ground lines to said conductive ground plane located on said first opposing side of said dielectric layer such that said first and second conductive ground lines will provide shielding for said at least one conductive signal line during the passage of electrical current through said signal line.
19. The method of claim 18 wherein said first and second conductive ground lines and said at least one conductive signal line are positioned on said dielectric layer using a photolithographic process.
20. The method of claim 18 further including providing first, second and third conductive thru-holes within said at least one dielectric layer, said first and third conductive through holes electrically coupling said first and second conductive ground lines to said conductive ground plane.
21. The method of claim 20 further including providing a second dielectric layer on said conductive ground plane opposite said first dielectric layer and providing a second conductive signal line on said second dielectric layer opposite said conductive ground plane, said second conductive thru-hole electrically coupling said at least one conductive signal line to said second conductive signal line.